The First Grade Russian Text, Table of Contents

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A Common Core Standard on the Cutting Room Floor

It has been pointed out that, somehow, an eighth grade geometry standard got left on the cutting room floor and is missing from the Common Core Mathematics Standards. See the article at

blogs.edweek.org/edweek/curriculum/2015/02/did_the_common_core_math_write.html

The missing standard is:

> *Informal arguments for area and volume formulas can make use of the way in which area and volume scale under similarity transformations: When one figure in the plane results from another by applying a similarity transformation with scale factor k, its area is k^2 times the area of the first. Similarly, volumes of solid figures scale by k^3 under a similarity transformation with scale factor k.*

This standard is important but not central, though the use of similarity transformations in grade 8 borders on cruel and unusual punishment. But the comment by McCallum that California added this standard back and other states could as well is very questionable. I think he's made that mistake before. This article is dated Feb. 15, 2015, and it's been more than two years since the California State Board of Education threw out all those additions in grades K-8. In fact, for these grades, what CA has is vanilla Common Core Standards, nothing else. But even in high school, where the State Board left added standards, the SBAC will not test them, so it is entirely optional whether high schools teach the additional material or not – a situation that we have seen disproportionately disadvantages students in lower SES districts.

So we don't have to talk about how area scales in CA, and maybe it will be gone for good in the entire good old USA. Maybe someone can pass a law decreeing that area scales linearly, as has been done at various times for the value of PI in this country.

Ze'ev's further comments on geometry with some responses:

http://www.libertylawsite.org/2014/03/27/the-common-cores-pedagogical-tomfoolery/

One of the first things to note is that Ze'ev points out two further standards one in second and one in third grade that continue 1.OA.6:

2.NBT.5: *Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.*

3.NBT.2: *Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.*

Ze'ev continues: In other words, students are not allowed simply to learn how to add and

subtract in first grade, in second grade, or in third grade. No, they must use the training wheels that the authors want them to use, whether they can ride without them or not. What is this if not pedagogy, and a wrongheaded one to boot? Young children do not need four different ways to "explain" addition – at best, this could be guidance to teachers how to individualize teaching rather than requiring children to know all these ways.

One can argue that those are just suggestions. Unfortunately, this is incorrect. The Common Core assessment consortia (PARCC and SBAC) will test these wrong-headed "strategies," paying attention to the variety of ways problems are answered rather than to correctness of results.

Then Ze'ev goes on to start with our objections to the CC approach to geometry: Perhaps the most egregious case of imposing pedagogy occurs in Common Core geometry. It expects the teaching of triangle congruence in a particular and experimental way:

Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

It is also well worth looking at the 17 comments following the article quoted above.